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Translation

PCT Application
PCT/JP2002/012884

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference H1567-01	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/JP02/12884	International filing date (*day/month/year*) 09 December 2002 (09.12.02)	Priority date (*day/month/year*) 04 March 2002 (04.03.02)
International Patent Classification (IPC) or national classification and IPC G11B 7/09, 7/125, 7/135		
Applicant MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 22 July 2003 (22.07.03)	Date of completion of this report 12 November 2003 (12.11.2003)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP02/12884

I. Basis of the report

1. With regard to the elements of the international application:*

☐ the international application as originally filed

☒ the description:
pages 1-30, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☒ the claims:
pages 2-4, 6-18, 20, as originally filed
pages _____, as amended (together with any statement under Article 19
pages 1, 5, 19, filed with the demand
pages _____, filed with the letter of _____

☒ the drawings:
pages 1/9-9/9, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP 02/12884

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	7, 8, 10-18	YES
	Claims	1-6, 9, 19, 20	NO
Inventive step (IS)	Claims	12	YES
	Claims	1-11, 13-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims		NO

2. Citations and explanations

Claims 1 to 6, 9, 19, and 20

Document 1: WO 00/79525 A1 (Matsushita Electric Industrial Co., Ltd.), 28 December 2000, entire text, fig. 1-36

Document 1 discloses an optical disk device wherein the amount of tilt control for an object lens is changed in accordance with the recording layer on which a light beam spot converges, and the inventions described in claims 1 to 6, 9, 19, and 20 form one portion of the optical disk device disclosed in document 1, and thus, lack novelty.

Claims 7, 13, and 18

Document 1: WO 00/79525 A1 (Matsushita Electric Industrial Co., Ltd.), 28 December 2000, entire text, fig. 1-36

Document 1 discloses an optical disk device wherein the amount of tilt control for an object lens is changed in accordance with the recording layer on which a light beam spot converges.

Document 2: JP 10-20263 A (Pioneer Electronic Corp.), 23 January 1998, entire text, fig. 1-22

Document 2 discloses an optical disk device wherein aberration correction is performed by driving a liquid crystal panel using a control signal obtained by a tilt sensor.

Applying the constitution disclosed in document 2 as a tilt control mechanism in the optical disk device disclosed in document 1 would be obvious to a person skilled in the art.

Claim 8

Document 1: WO 00/79525 A1 (Matsushita Electric Industrial Co., Ltd.), 28 December 2000, entire text, fig. 1-36

Document 1 discloses an optical disk device wherein the amount of tilt control for an object lens is changed in accordance with the recording layer on which a light beam spot converges.

Document 3: JP 2000-348362 A (LG Electronics Inc.), 15 December 2000, entire text, fig. 1-4

Document 3 discloses an optical disk device wherein tilting of an optical disk is detected using the focus search voltages at two points in the radial direction of the optical disk.

Applying the constitution disclosed in document 3 as a tilt detection constitution in the optical disk device disclosed in document 1 would be obvious to a person skilled in the art.

Claims 10, 11, 14, and 15

Document 1: WO 00/79525 A1 (Matsushita Electric Industrial Co., Ltd.), 28 December 2000, entire text, fig. 1-36

Document 1 discloses an optical disk device wherein the amount of tilt control for an object lens is changed in accordance with the recording layer on which a light beam spot converges.

Document 4: JP 2000-20993 A (Fujitsu Ltd.), 21 January 2000, entire text, fig. 1-10

Document 4 discloses an optical disk device wherein irregularities in the substrate thickness of an optical disk are detected using a separate light source from the recording and playback light source.

Applying the substrate thickness irregularity-detecting mechanism disclosed in document 4 to the optical disk device disclosed in document 1 would be obvious to a person skilled in the art.

Claim 12

Document 1: WO 00/79525 A1 (Matsushita Electric Industrial Co., Ltd.), 28 December 2000, entire text, fig. 1-36

Document 1 shows the general state of the art in this technical field, and discloses an optical disk device wherein the amount of tilt control for an object lens is changed in accordance with the recording layer on which a light beam spot converges, but a constitution wherein information about the substrate thickness of an optical recording medium is detected using the focal point of a first beam on the side near the optical axis and the focal point of a second beam on the side further out than the

first beam is neither disclosed nor suggested in any of the documents cited in the international search report.

Claims 16 and 17

Document 1: WO 00/79525 A1 (Matsushita Electric Industrial Co., Ltd.), 28 December 2000, entire text, fig. 1-36

Document 1 discloses an optical disk device wherein the amount of tilt control for an object lens is changed in accordance with the recording layer on which a light beam spot converges.

Document 2: JP 10-20263 A (Pioneer Electronic Corp.), 23 January 1998, entire text, fig. 1-22

Document 2 discloses an optical disk device wherein wavefront aberration arising from the substrate thickness of an optical disk is corrected using a liquid crystal panel.

Document 4: JP 2000-20993 A (Fujitsu Ltd.), 21 January 2000, entire text, fig. 10-10

Document 4 discloses an optical disk device wherein irregularities in the substrate thickness of an optical disk are detected using a separate light source from the recording and playback light source.

Applying the constitutions disclosed in documents 2 and 4 to the optical disk device disclosed in document 1 would be obvious to a person skilled in the art.